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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/734,068	12/10/2003	Shawn R. Irwin	356-64615	1846
24197	7590	11/21/2005	EXAMINER KING, ANITA M	
KLARQUIST SPARKMAN, LLP 121 SW SALMON STREET SUITE 1600 PORTLAND, OR 97204			ART UNIT 3632	PAPER NUMBER

DATE MAILED: 11/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/734,068	Applicant(s) IRWIN ET AL.	
	Examiner Anita M. King	Art Unit 3632	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 31-33, 35, 36, 38-45, 47-55 and 60-70 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 42 and 51 is/are allowed.
- 6) ☒ Claim(s) 31-33, 35, 36, 38-45, 47-50 and 60-70 is/are rejected.
- 7) ☒ Claim(s) 52-55 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>8/4/05</u> . | 6) <input type="checkbox"/> Other: _____ |

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This is the second office action for application number 10/734,068, Modular Dental Chair Equipment Mounting System, filed on December 10, 2003.

Cancellation of Claims

Claims 1-30, 34, 37, 46, and 56-59 have been canceled per applicant's request.

Response to Amendment

The indicated allowability of claims 38-40, 47-49, 69, and 70 is withdrawn in view of the newly discovered reference(s) to Betush. Rejections based on the newly cited reference(s) follow.

Claim Objections

Claim 47 is objected to because of the following informality: in line 13, "being" should be deleted. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 35 and 38-41 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,295,825 to Betush, hereinafter, Betush '825. Betush '825 discloses an arm assembly for positioning equipment in a dental chair system, comprising: a first element/link arm (10) for pivotable attachment to a dental chair; a second element/first

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segment (12) pivotably attached to an end of the first element at a substantially vertical first pivot axis; a third element/second segment (14) attached to the second element substantially along the first pivot axis; a fourth element/terminal segment (16) attached to the third element at a substantially vertical second pivot axis that is horizontally spaced from the first pivot axis; a multi-function electronic control unit (18) coupled to one of the elements and having wiring extending through at least one of the elements/segments; wherein the electronic control unit is coupled to the terminal segment; wherein the electronic unit is rotatably coupled to the terminal segment; and at least one tool holder (24) rotatable mounted to the terminal segment.

Claims 38-40, 43, 47, 48, 69, and 70 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 4,610,630 to Betush, hereinafter, Betush '630. In regards to claims 38-40, 43, and 69, Betush '630 discloses a multi-segmented arm assembly for a dental chair (12), comprising a link arm segment (10) for pivotably attachment to a rear of the dental chair; a first segment (14) coupled to the link arm segment; a second segment (16) pivotably connected to the first segment at a substantially vertical pivot axis; a third segment (18) pivotably connected to the second segment at a substantially horizontal pivot axis; a terminal segment (20) pivotably connected to the third segment; a multi-function electronic control unit (22) coupled to one of the segments, the control unit having wiring extending through at least one of the segments; wherein the control unit is coupled to the terminal segment; wherein the control unit is rotatably coupled to the terminal segment; wherein the terminal segment is pivotably connected at a substantially horizontal pivot axis; wherein at least the link

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arm segment, the second segment, and the third segment have open interior areas in communication with each other through which conduits can be routed, the open interior areas of the link arm segment and the third segment being defined within closed cross-sections of the link arm segment and the third segment, respectively.

In regards to claims 47, 48, and 70, Betush '630 discloses a multi-segmented arm assembly, comprising: a link arm segment (bottom segment connected directly to chair) for pivotable attachment to a rear of the dental chair; a first segment (10) coupled to the link arm segment; a second segment (14) pivotably connected to the first segment at a substantially vertical pivot axis; a third segment (18) pivotably connected to the second segment at a substantially horizontal pivot axis; a fourth segment (20) pivotably connected to the third segment at a substantially horizontal pivot axis; a terminal segment (segment at the bottom of segment 20); a multi-function electronic control unit (22) coupled to one of the segments, the control unit having wiring extending through at least one of the segments; wherein the control unit is coupled to the terminal segment; and wherein at least the link arm segment, the second segment, and the third segment have open interior areas in communication with each other through which conduits can be routed, the open interior areas of the link arm segment and the third segment being defined within closed cross-sections of the link arm segment and the third segment, respectively.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 31-33 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 3,986,263 to Borgelt et al., hereinafter, Borgelt in view of U.S. Patent 4,427,382 to Hoffmeister et al., hereinafter, Hoffmeister and in further view of Betush '825. Borgelt discloses an arm assembly to adapt a dental chair for right-side or left-side use, the assembly comprising: a compensating arm (21) pivotably connected to a rear side of a support (17) for the dental chair to pivot between left and right sides; a primary arm (19) pivotably connected to the compensating arm at a primary pivot axis to pivot in a generally horizontal plane; a secondary arm (22) connected to the compensating arm near the primary pivot axis and having multiple segments, the secondary arm being vertically movable relative to the primary arm and the compensating arm; a control unit (31); and wherein the secondary arm is positioned above a pivot path of the primary arm.

Borgelt discloses the claimed invention except for the limitation of the secondary arm being horizontally movable relative to the primary arm. Hoffmeister teaches an arm assembly comprising a compensating arm (4) pivotably connected to a rear side of a support; a primary arm (near element 5 attached to element 9) pivotably connected to the compensating arm at a primary pivot axis to pivot in a generally horizontal plane; a

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secondary arm (1) connected to the compensating arm near the primary pivot axis and having multiple segments, the secondary arm being vertically and horizontally movable relative to the primary arm and the compensating arm; wherein the length of the compensating arm is set to position the primary pivot axis at a sufficient distance from the support to permit movement of the respective primary and secondary arms without interference; and wherein the secondary arm is positioned above the path of the primary arm. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the arm assembly in Borgelt to have included the arm assembly as taught by Hoffmeister for the purpose of increasing the adjustability of the arm assembly relative to the dental chair.

Borgelt combined with Hoffmeister discloses the claimed invention except for the limitation of an electronic control unit. Betush '825 teaches an arm assembly for a dental chair having multiple segments and a multi-function electronic control unit (18) coupled to one of the segments of the arm assembly and having wiring extending through at least one of the segments. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the assembly in Borgelt combined with Hoffmeister to have included the control unit as taught by Betush '825 for the purpose of providing a means for controlling the functionality of the instruments held by the control unit.

Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Borgelt in view of Betush '825. Borgelt discloses an arm assembly for a dental chair, comprising: a link arm (19) for pivotable connection to a rear of the dental chair

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allowing rotation in a substantially horizontal plane; a support arm (22) connected to the link arm, the support having multiple pivotably connected elongate segments capable of being positioned in space at a desired location and a means for preventing interference between the support arm and other structures adjacent the dental chair; and a control unit (31). Borgelt discloses the claimed invention except for the limitation of the control unit being electronic and connected to one of the segments of the support arm. Betush '825 teaches an arm assembly for a dental chair having multiple segments and a multi-function electronic control unit (18) coupled to one of the segments of the arm assembly and having wiring extending through at least one of the segments. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the assembly in Borgelt to have included the arm assembly and control unit as taught by Betush '825 for the purpose of providing an arm assembly with more adjustability and for the purpose of providing a means for controlling the functionality of the instruments held by the control unit.

Claims 38, 44, 45, and 60-68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoffmeister in view of Betush '825. Hoffmeister discloses a multi-segmented arm assembly comprising: a link arm segment (bottom element near reference 5) for pivotable attachment to a rear of the dental chair; a first segment (4) coupled to the link arm segment; a second segment (24) pivotably connected to the first segment at a substantially vertical pivot axis; a third segment (11) pivotably connected to the second segment at substantially horizontal pivot axis; a terminal segment pivotably connected to the third segment; a parallelogram supporting structure for at

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least one segment; wherein the link arm segment has a distal end and the first segment is connected to the link arm segment at the distal end of the link arm segment; wherein the first segment has a distal end and the second segment is connected to the first segment at the distal end of the first segment; wherein the second segment has a distal end and the third segment is connected to the first segment at the distal end of the second segment; and wherein the third segment has a distal end and the terminal segment is connected to the third segment at the distal end of the third segment

Hoffmeister further teaches a mounting component (2) having supply conduits (60), which are conducted through at least one segment. Hoffmeister discloses the claimed invention except for the limitation of an electronic control unit. Betush '825 teaches an arm assembly for a dental chair having multiple segments, a multi-function electronic control unit (18) coupled to one of the segments of the arm assembly and having wiring extending through at least one of the segments, and a tool holder (24). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the assembly in Hoffmeister to have included the control unit as taught by Betush '825 for the purpose of providing a means for controlling the functionality of the instruments held by the control unit.

Claims 49 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Betush '630 in view of U.S. Patent 3,755,899 to Betush, hereinafter, Betush '899. Betush '630 discloses the claimed invention except for the limitation of the control unit being rotatably coupled to the terminal segment. Betush '899 teaches a multi-segmented arm assembly comprising: a link arm segment (12) for pivotable attachment

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to a dental chair, a first segment (13) coupled to the link arm segment, a second segment (14) pivotably connected to the first segment, a third segment (17) pivotably connected to the second segment, a terminal segment (19) pivotably connected to the third segment, and a multi-function control unit coupled to one of the segments, wherein the control unit is rotatably coupled to the terminal segment, and a tool holder (52). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the connection between the terminal segment and the control unit to have been rotatable and to have included the control unit as taught by Betush '899 for the purpose of increasing the adjustability of the assembly to conform to the user and for the purpose of providing a means to hold and store instruments.

Allowable Subject Matter

Claims 42 and 51 are allowed.

Claims 52-55 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments filed August 24, 2005 have been fully considered but they are not persuasive.

In response to applicant's argument that Hoffmeister does not show any arm configured for connection to a rear of a dental chair, the arm assembly in Hoffmeister

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need only be capable of being mounted to a rear of a dental chair since the dental chair is not a positive limitation of the claimed invention, i.e., an arm assembly. The instant invention is drawn to a multi-segmented arm assembly, the dental chair is merely an intended use of the claimed invention, thus, the location at which the assembly is attached to the chair is irrelevant when applying the prior art of record. It is well known in the art of dental chairs to mount the arm assembly to the rear of the chair as suggested by cited prior art references to Borgelt and Joeckel et al. and newly cited prior art reference to Kaneko et al., these reference would allow for the arm assembly to be used on the right and left sides of the dental chair.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent 3,311,411 to Page et al.

U.S. Patent 4,026,026 to Richardson

U.S. Patent 4,500,134 to Kaneko et al.

U.S. Patent 6,514,239 to Shimmura et al.


U.S. Patent Application Publication 2004/0094676 to Cuomo

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anita M. King whose telephone number is (571) 272-6817. The examiner can normally be reached on Monday-Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Olszewski can be reached on (571) 272-6788. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Anita M. King
Primary Examiner
Art Unit 3632

November 16, 2005